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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,347

05/05/2006

Makoto Yamada

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EXAMINER

TOPGYAL, GELEK W

ART UNIT

PAPER NUMBER

2621

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,347	<b>Applicant(s)</b> YAMADA ET AL.	
	<b>Examiner</b> GELEK TOPGYAL	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Priority*

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 9/6/2004. It is noted, however, that applicant has not filed a certified copy of the JAPAN 2004-258638 application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 4** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. In claim 4, lines 7 and 8 recites the term "the image", it is not clear whether it is in reference to "the moving image" or "the encoded image"

### *Claim Rejections - 35 USC § 101*

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

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Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a physical or logical relationship among data elements, designed to support specific data manipulation function.” The New IEEE Standard Dictionary of Electrical and Electronic Terms 308 (5<sup>th</sup> ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held statutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

**Claims 11 and 18** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 9 and 18 define a *program* embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., “When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed, a *program* can range from a paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

***Claim Rejections - 35 USC § 102***

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1-3, 5-7, 9-18** are rejected under 35 U.S.C. 102(b) as being anticipated by Gunji et al. (US 2002/0126994).

9. **Regarding claims 1 and 9-12**, Gunji et al. teaches a recording apparatus comprising:

extraction means for extracting an image from a unit in which a moving image is encoded (paragraphs 0107-0108 teaches wherein a thumbnail is generated from a top picture), the unit including a constant number of images (paragraphs 0053-0054 and 0079-0081 teaches of GOPs that have constant number of images);

reduction means for reducing the amount of information of the extracted image (paragraphs 0107-0108 teaches wherein a thumbnail is generated from a top picture);  
encoding means for encoding the image whose amount of information is reduced by a predetermined encoding scheme (as discussed above, a thumbnail by definition is a reduced size image version generated by encoding a larger size image);

association means for associating the encoded image with the unit from which the image is extracted by the extraction means (paragraphs 0108, 0110 and 0111 teaches of associating each thumbnail with an entry point); and

recording control means for controlling recording of the image associated with the unit onto a data recording medium for recording the moving image (paragraph 0110

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teaches of recording the thumbnail management information onto the recording medium where the moving images are recorded).

**Regarding claim 2**, Gunji et al. teaches the claimed wherein the association means is a track associated with a track of the moving image and associates the encoded image with the unit by arranging the encoded image in a track in a predetermined file format (as discussed above wherein each thumbnail is associated with an entry point, which links it to UD\_PGC (playlist) in Fig. 2).

**Regarding claim 3**, Gunji et al. teaches the claimed wherein the association means associates the encoded image with the unit by associating a range of time for playback of the unit of the moving image with the encoded image (as discussed above wherein each thumbnail is associated with an entry point, which links it to UD\_PGC (playlist) in Fig. 2).

**Regarding claim 5**, Gunji et al. teaches the claimed wherein the encoding means encodes the image by a compression and encoding scheme for a static image (as discussed above, only a single image from the top of the recording is used to create a thumbnail).

**Regarding claim 6**, Gunji et al. teaches the claimed wherein the encoding means encodes the image by a compression and encoding scheme for a moving image such that decoding is possible only with the image (as discussed above and upon reproduction of the thumbnail (as in paragraphs 0111) the thumbnail is decoded by system decoder group 64 in Fig. 1).

**Regarding claim 7**, Gunji et al. teaches the claimed wherein the reduction means reduces the amount of information of the image by thinning out pixels of the image (as discussed above, a thumbnail by definition is a reduced size image generated by encoding a larger size image. The encoding process removes majority of the data from the larger image to create the smaller thumbnail sized image).

**Playback apparatus, method, medium and program claims 12, 16-18** are rejected for the same reasons as discussed above in the method apparatus claims 1, 9-11, respectively.

**Regarding claim 13**, Gunji et al.'s system utilize a conventional DVD format and therefore would allow for skipping functions between chapters and therefore would reproduce only the associated thumbnails.

**Claims 14 and 15** are rejected for the same reasons as discussed above in claims 5 and 6, respectively.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Gunji et al. (US 2002/0126994) in view of Kikuchi et al. (US 6,553,180).

**Regarding claim 4**, Gunji et al. teaches the claimed wherein the recording control means: controls recording of the moving image onto the data recording medium such that the moving image in a predetermined time for playback is recorded in a first contiguous area of the data recording medium (paragraphs 0053-0055 and Fig. 4 shows that the AV file is recorded together). Although it is an inherent feature that the thumbnail data (stored as thumbnail management data) are stored separately but on the same medium, Gunji et al. fails to particularly show that the recording of the image onto the data recording medium such that the image is recorded in a second contiguous area of the data recording medium when the amount of data of the encoded image exceeds a predetermined threshold if the recording of the moving image in the first area of the data recording medium is ended.

In an analogous art, Kikuchi teaches in Fig. 36 and its respective disclosure that the thumbnail management area is stored together, with each of the thumbnail picture stored together (table).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to record thumbnail management data together in one area as taught by Kikuchi et al. into the system of Gunji et al. to reduce seek time by placing the thumbnails together.

12. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Gunji et al. (US 2002/0126994) in view of Lopresti (US 6,298,173).



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**Regarding claim 8**, Gunji et al. teaches the claimed wherein the reduction means reduces the amount of information of the image however fails to teach wherein the reduction is accomplished by removing a high-frequency component of the image.

In an analogous image reducing art, Lopresti teaches in col. 7, lines 3-8 of the ability to use JPEG to remove high frequency components of an image to reduce the amount of information.

Gunji's thumbnail generation is implemented on an I frame, which uses MPEG compression. It should be noted that an I frame alone uses the same technology as JPEG compression.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ability to use JPEG compression as taught by Lopresti into the system of Gunji et al. so that image compression can be achieved.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. The cited art teaches systems that utilize thumbnails/representative images allowing a user to gain access to certain portions of correlated moving image data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GELEK TOPGYAL whose telephone number is (571)272-8891. The examiner can normally be reached on 8:30am -5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gelek Topgyal/  
Examiner, Art Unit 2621

/JAMIE JO VENT ATALA/  
Examiner, Art Unit 2621